

REMARKS

Claims 4, 6, 8-15 and 23-27 are pending in this application. Claim 23 has been revised to feature human fibroblast cells, and treatment to the cell in the amount of from 1 to 500 μ M. Support for revision of claim 23 to feature human fibroblast cells may be found at least in Example 1 at page 26, line 9, and at page 36, lines 24-25 of the application as filed. Support for the revision of claim 23 to feature the amount of 1-500 μ M may be found at least at page 23, lines 17-19 of the application as filed. Claim 9 has been revised in order to maintain antecedent basis to claim 23 from which it depends. Claims 4, 8, 10-15, and 25-27 have been canceled without prejudice.

Alleged rejections under 35 U.S.C. §102(b)

Claims 4, 9, 14 and 23 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by Chiang et al., (J. of Clinical Endo. & Metabolism 85: 3828-3839, 2000). Applicants have carefully reviewed the statement of the instant rejection and respectfully traverse because no *prima facie* case of anticipation has been presented.

Applicants respectfully submit that Chiang et al. report the hormonal regulation and differential expression of the estrogen receptors α and β expressed in human granulose-luteal cells (hGLCs) by human chorionic gonadotropin (hCG) and gonadotropin releasing hormone (GnRH). In stark contrast the instant claims feature a method of modulating cellular senescence in human fibroblast cells by treatment with an inhibitor of adenylyl cyclase. Even when reporting the use of an inhibitor of adenylyl cyclase, Chiang et al. use a concentration of 0.5 μ M, whereas, in contrast, the instant claims feature treatment at a concentration from 1 to 500 μ M. Accordingly, based upon the arguments presented above, and revision of claims 9 and 23 (as indicated above claims 4 and 14 are canceled), the instant claims are patentably distinct from Chiang et al. Therefore, Applicants respectfully submit that the basis for this rejection is misplaced and may be properly withdrawn.

Alleged rejections under 35 U.S.C. §103(a)

Claims 4, 6, 8-15 and 23-27 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Chiang et al. (J. of Clinical Endo. & Metabolism 85:3828-3839, 2000) in view of Chaves et al. (Gerontology 48:354-359, 2002). Applicants have carefully reviewed the

statement of the instant rejection and respectfully traverse because no *prima facie* case of obviousness has been presented.

As indicated by the above arguments, the report of Chiang et al. is unrelated to the instant claims featuring a method for modulating senescence in human fibroblast cells. As acknowledged by the Examiner, Chiang et al. do not report the modulation of cellular senescence in a human fibroblast cell nor the inhibitors of adenylyl cyclase embodied by instant claim 24 (as indicated above, claims 10-13 and 25-27 have been canceled).

Applicants respectfully submit that the deficiencies of Chiang et al. are not remedied by the report of Chaves et al. which is directed to the correlation between NADPH-oxidase and protein kinase C (PKC) and the production of reactive oxygen species (ROS) in granulocytes obtained from blood related to age. One of ordinary skill in the art would immediately recognize that the activities of adenylyl cyclase are distinct and independent from the activities of PKC. The selective inhibitor of PKC (Calphostin C) reported by Chaves et al. is completely unrelated to the inhibitors of adenylyl cyclase featured by the instant claims. Therefore, based upon this understanding alone, Applicants respectfully submit that one of ordinary skill in the art would find absolutely no rationale to modify the report of Chiang et al. based upon the completely unrelated activities of PKC reported by Chaves et al. to arrive at the instant claims, with a reasonable (or predictable) expectation of success. Applicants respectfully submit that Chaves et al. teach away from and is unrelated to a method for modulating cellular senescence by treatment with an inhibitor of adenylyl cyclase, as embodied by the instant claims.

For the above reasons, and in the absence of the inadmissible use of hindsight, there can be no *prima facie* case of obviousness based upon Chiang et al. alone or in combination with Chaves et al. Therefore, Applicants respectfully submit that this rejection is misplaced and may be properly withdrawn.

Conclusion

It is believed that the application is now in condition for allowance. Applicants request the Examiner to issue a notice of Allowance in due course. The Examiner is encouraged to contact the undersigned in order to further prosecution of the instant application.

The Commissioner is hereby authorized to charge JHK Law's Deposit Account No. **502486** for such fees required under 37 CFR §§ 1.16 and 1.17 and to credit any overpayment to said Deposit Account No. **502486**.

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Respectfully submitted,

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